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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
(Docket No. 1639)

In re Application of:

Dae-Sik Oh

Serial No.: 09/871,081

Filed: May 31, 2001

For: Method and System for Location-
Based Power Control in
Wireless Communications



Group Art Unit: 2618

Examiner: Raymond B. Dean

Confirmation No.: 9317

Mail Stop Appeal-Brief Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Sir:

TRANSMITTAL LETTER

In regard to the above identified application:

1. We are transmitting herewith the attached:
 - a. Response to Notification of Non-Compliant Appeal Brief;
 - b. Amended Summary of Claimed Subject Matter; and
 - c. Return Receipt Postcard.
2. With respect to additional fees, no additional fee is required.
3. Please charge any additional fees or credit overpayment to Deposit Account No. 210765. A duplicate copy of this sheet is enclosed.
4. CERTIFICATE OF MAILING UNDER 37 CFR § 1.10: The undersigned hereby certifies that this Transmittal Letter and the paper, as described in paragraph 1, are being deposited with the United States Postal Service, *Express Mail EV 839381240 US* in an envelope addressed to: Mail Stop Appeal-Brief Patents, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450, on this 27th day of December, 2006.

By :

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or step plus function elements. Therefore, Applicant submits that the Summary of Claimed Subject Matter is not required to address any of the dependent claims.

Nonetheless, in order to expedite the appeal process, Applicant is filing herewith an Amended Summary of Claimed Subject Matter that addresses *all* of the pending claims. In this regard, Applicant notes that when, as in this case, "the Office holds the brief to be defective solely due to appellant's failure to provide a summary of the claimed subject matter as required by 37 CFR 41.37(c)(1)(v), an entire new brief need not, and should not, be filed. Rather, a paper providing a summary of the claimed subject matter as required by 37 CFR 41.37(c)(1)(v) will suffice." *See* MPEP 1205.03. Thus, the Amended Summary of Claimed Subject Matter, submitted herewith as a separate paper, constitutes appropriate correction.

Respectfully submitted,

McDonnell Boehnen Hulbert & Berghoff LLP

Dated: December 27, 2006

By: Richard A. Machonkin
Richard A. Machonkin
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AMENDED SUMMARY OF CLAIMED SUBJECT MATTER

Sir:

In response to the Notice of Non-Compliant Appeal Brief, please replace Section V of the Appeal Brief filed September 8, 2006, with the following:

V. Summary of Claimed Subject Matter

Of the currently pending claims, claims 1, 7, 16, and 24 are independent. Claims 2, 3, and 6 are dependent on claim 1. Claims 8-13 are dependent on claim 7. Claims 17-20 are dependent on claim 16. Claim 25 is dependent on claim 24.

Claim 1 is directed to a method of controlling power used for communication between a mobile station and a base station. The method comprises the steps of: (i) the base station determining a location of the mobile station when the mobile station is going to engage in a call (*see*

Specification, p. 12, lines 1-2, p. 14, lines 3-13, p. 18, lines 3-7; Fig. 1, block 12); (ii) based on the location, the base station selecting an initial power level of a primary communication channel for communication from the mobile station to the base station (*see* Specification, p. 8, lines 14-17, p. 9, lines 8-10, p. 12, lines 2-3, p. 14, lines 14-18, p. 18, lines 3-7; Fig. 1, block 14; Fig. 2, block 26); (iii) starting at the initial power level, engaging in a power control process that regulates the power of the primary communication channel used for communication from the mobile station to the base station (*see* Specification, p. 9, lines 1-5, p. 12, lines 3-4, p. 14, lines 19-22, p. 15, line 11 - p. 17, line 4; Figs. 2-4); (iv) the base station detecting a changed location of the mobile station (*see* Specification, p. 8, lines 19-22, p. 12, lines 4-5, p. 15, lines 1-6, p. 18, lines 3-7; Fig. 1, block 24); (v) in response to detecting the changed location, the base station interrupting the power control process (*see* Specification, p. 15, lines 8-10, p. 18, lines 3-7); (vi) based on the changed location, the base station selecting a new initial power level (*see* Specification, p. 8, lines 20-22, p. 12, lines 4-5, p. 18, lines 3-7; Fig. 1, block 14); and (vii) starting at the new initial power level, engaging in a new power control process that regulates the power of the primary communication channel used for communication from the mobile station to the base station (*see* Specification, p. 15, lines 1-3 and 8-10).

Claim 2 is dependent on claim 1 and specifies that the step of the base station selecting an initial power level of a primary communication channel for communication from the mobile station comprises: the base station referring to a database that correlates locations with initial power levels and the base station selecting from the database an initial power level that is correlated with the location. *See* Specification, p. 11, lines 8-26, p. 12, lines 2-3, p. 14, lines 14-18.

Claim 3 is dependent on claim 2 and specifies that the step of engaging in a power control process that regulates the power of the primary communication channel used for communication from the mobile station to the base station comprises: the base station sending to the mobile station

an instruction to transmit at the selected initial power level, whereby the mobile station responsively transmits at the selected initial power level. *See* Specification p. 15, lines 12-17; Fig. 2, block 26.

Claim 6 is dependent on claim 1 and recites a base station programmed to perform the functions of claim 1. *See* Specification, p. 14, lines 3-21, p. 15, line 11 – p. 16, line 4, p. 18, lines 3-7.

Claim 7 is directed to a method of controlling power of a primary communication channel for communications between a mobile station and a base station. The method comprises the steps of: (i) determining a location of the mobile station (*see* Specification, p. 9, lines 8-9, p. 12, lines 1-2, p. 14, lines 3-13; Fig. 1, block 12); (ii) based on the location, the base station selecting a reverse link setpoint and an initial transmit power for the mobile station on the primary communication channel (*see* Specification, p. 8, lines 14-17, p. 12, line 12 – p. 13, line 3, p. 14, lines 14-18, p. 18, lines 3-7; Fig. 1, block 14); (iii) sending to the mobile station an instruction to use the initial transmit power (*see* Specification, p. 9, lines 1-2, p. 15, lines 11-17; Fig. 2, block 26); and (iv) adjusting mobile station transmit power on the primary communication channel so that a mobile station signal-to-noise ratio matches the reverse link setpoint (*see* Specification, p. 9, lines 17-20, p. 15, line 18 – p. 16, line 4; Fig. 2, blocks 28-36).

Claim 8 is dependent on claim 7 and specifies that the step of selecting a reverse link setpoint comprises: (v) referring to a database that correlates locations with reverse link setpoints (*see* Specification, p. 11, lines 8-26, p. 12, lines 2-3, p. 14, lines 14-18); (vi) selecting from the database a reverse link setpoint that is correlated with the location (*see* Specification, p. 12, lines 2-3, p. 14, lines 14-18).

Claim 9 is dependent on claim 7 and specifies that the step of adjusting mobile station transmit power on the primary communication channel so that a mobile station signal-to-noise ratio

matches the reverse link setpoint comprises: (v) measuring an energy level, E_b , of a signal received from the mobile station (*see* Specification, p. 4, lines 7-9, p. 15, lines 18-20); (vi) based on the energy level and an estimate of air interface noise, N_o , computing a measured value of E_b/N_o (*see* Specification, p. 4, lines 9-10, p. 15, lines 18-20); (vii) comparing the measured value of E_b/N_o with the reverse link setpoint (*see* Specification, p. 15, lines 20-22; Fig. 2, block 32; and (viii) if the measured value of E_b/N_o does not match the reverse link setpoint, sending to the mobile station an instruction to adjust the mobile station transmit power on the primary communication channel (*see* Specification, p. 15, line 22 – p. 16, line 3; Fig. 2, blocks 34-36).

Claim 10 is dependent on claim 7 and further recites: (v) receiving a signal at the base station from the mobile station (*see* Specification, p. 16, line 19; Fig. 4, block 52); (vi) measuring a frame error rate of the signal (*see* Specification, p. 16, lines 19-20; Fig. 4, block 54); (vii) comparing the measured frame error rate to a threshold frame error rate (*see* Specification, p. 16, lines 20-21; Fig. 4, block 56); (viii) if the measured frame error rate does not match the threshold frame error rate, adjusting the reverse link setpoint (*see* Specification, p. 16, line 21 – p. 17, line 3; Fig. 4, blocks 58-60); and (ix) using the adjusted reverse link setpoint as a basis to manage mobile station transmit power on the primary communication channel (*see* Specification, p. 17, lines 3-4).

Claim 11 is dependent on claim 10 and further recites: (x) based on the location, selecting a bounding value for a reverse link setpoint (*see* Specification, p. 10, lines 1-2, p. 11, lines 8-26); and (xi) using the bounding value as a basis to limit the reverse link setpoint (*see* Specification, p. 10, lines 2-3, p. 12, lines 2-5).

Claim 12 is dependent on claim 11 and specifies that the step of selecting a bounding value for a reverse link setpoint comprises: (xii) referring to a database that correlates locations with bounding values of reverse link setpoints (*see* Specification, p. 12, lines 2-3, p. 14, lines 14-18); and

(xiii) selecting from the database a reverse link setpoint that is correlated with the location (*see* Specification, p. 12, lines 2-3, p. 14, lines 14-18).

Claim 13 is dependent on claim 7 and recites a base station programmed to perform the functions of claim 7 (*see* Specification, p. 14, lines 3-21, p. 15, line 11 – p. 16, line 4, p. 18, lines 3-7).

Claim 16 is directed to a method of controlling power of communications between a mobile station and a base station. The method comprises the steps of: (a) determining a location of the mobile station (*see* Specification, p. 9, lines 8-9, p. 12, lines 1-2, p. 14, lines 3-13; Fig. 1, block 12); (b) based on the location, the base station selecting a setpoint and a mobile station transmit power on a primary communication channel (*see* Specification, p. 8, lines 14-17, p. 12, line 12 – p. 3, line 3, p. 14, lines 14-18, p. 18, lines 3-7; Fig. 1, block 14); (c) instructing the mobile station to transmit at the mobile station transmit power on the primary communication channel (*see* Specification, p. 9, lines 1-2, p. 15, lines 11-17; Fig. 2, block 26); (d) computing an energy-to-noise measure for a signal received from the mobile station (*see* Specification, p. 15, lines 18-20, p. 16, lines 11-13; Fig. 2, block 30; Fig. 3, block 44); (e) determining if the energy-to-noise measure matches the setpoint (*see* Specification, p. 9, lines 18-20, p. 15, line 20 - p. 16, line 4, p. 16, lines 13-18; Fig. 2, block 32; Fig. 3, block 46); and (f) in response to a determination that the energy-to-noise measure does not match the initial setpoint, instructing the mobile station to adjust the mobile station transmit power (*see* Specification, p. 9, lines 17-20, p. 15, line 22 – p. 16, line 3, p. 16, lines 14-17; Fig. 2, blocks 34-36; Fig. 3, blocks 48-50).

Claim 17 is dependent on claim 16 and further recites: (g) monitoring an error rate of signals received from the mobile station (*see* Specification, p. 16, lines 19-20; Fig. 4, blocks 52-54); (h) determining if the error rate matches a predetermined threshold (*see* Specification, p. 16, lines 20-21;

Fig. 4, block 56); and (i) in response to a determination that the error rate does not match the predetermined threshold, adjusting the setpoint (*see* Specification, p. 16, line 21 – p. 17, line 3; Fig. 4, blocks 58-60).

Claim 18 is dependent on claim 17 and further recites: periodically repeating steps (d)-(f) and (g)-(i). *See* Specification p. 16, lines 5-10.

Claim 19 is dependent on claim 18 and further recites: detecting a new location of the mobile station and repeating steps (b)-(f) based on the new location. *See* Specification, p. 15, lines 1-10.

Claim 20 is dependent on claim 16 and recites a base station programmed to perform the functions of claim 16. *See* Specification, p. 14, lines 3-21, p. 15, line 11 – p. 16, line 4, p. 18, lines 3-7.

Claim 24 is directed to a power control system comprising: (i) a database that correlates locations with initial power levels (*see* Specification, p. 8, lines 18-19, p. 11, lines 8-26); (ii) a base station controller (BSC) with access to said database (*see* Specification, p. 8, lines 18-19, p. 12, lines 2-3, p. 14, lines 14-16); (iii) the BSC being configured so that when a mobile station is going to engage in a call, the BSC determines a location of the mobile station, selects from the database an initial power level based on the location of the mobile station, and instructs the mobile station to transmit at the initial power level (*see* Specification, p. 12, lines 1-4, p. 14, lines 3-22, p. 15, lines 11-15); and (iv) the BSC being further configured so that the BSC continually monitors the location of the mobile station and, in response to detecting a new location of the mobile station, the BSC selects from the database a new initial power level based on the new location of the mobile station and instructs the mobile station to transmit at the new initial power level (*see* Specification, p. 8, lines 19-22, p. 15, lines 1-10).

Claim 25 is dependent on claim 24 and further recites: a mobile positioning center (MPC), wherein the BSC queries the MPC to determine the location of the mobile station. *See* Specification, p. 14, lines 11-13.

Respectfully submitted,

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Dated: December 27, 2006

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